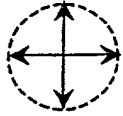
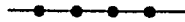


Uncoded 4-ary PSK



Uncoded 4-ary PAM



Rate 2/3 coded 8-ary PSK



Rate 2/3 coded 8-ary PAM



FIG. 6

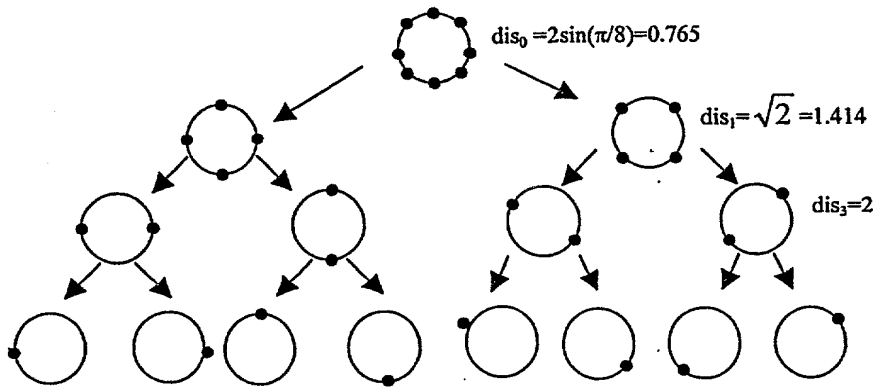


FIG. 7

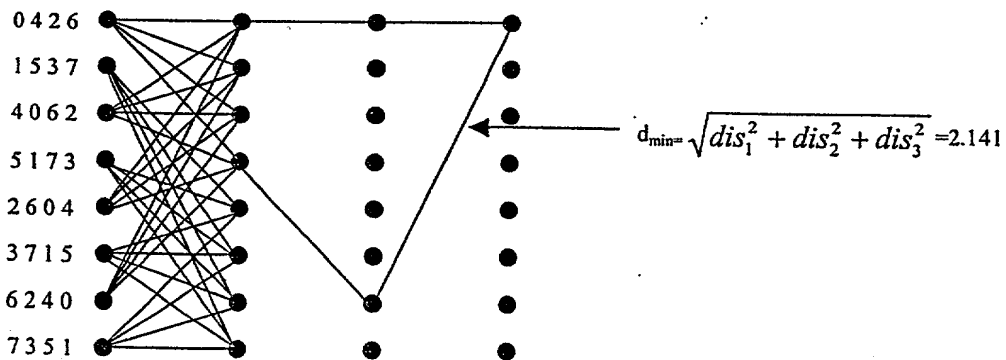


FIG. 8

State	Input 0	Input 1	Input 2	Input 3
1	1	2	5	34
2	3	8	15	37
3	4	14	10	50
4	5	34	1	2
5	6	26	11	47
6	7	64	17	25
7	8	3	37	15
8	9	28	29	20
9	10	50	4	14
10	11	47	6	26
11	12	63	31	62
12	13	27	53	55
13	14	4	50	10
14	15	37	3	8
15	16	54	30	43
16	17	25	7	64
17	18	35	40	51
18	19	49	57	42
19	20	29	28	9
20	21	58	38	56
21	22	61	52	24
22	23	44	32	48
23	24	52	61	22
24	25	17	64	7
25	26	6	47	11
26	27	13	55	53
27	28	9	20	29
28	29	20	9	28
29	30	43	16	54
30	31	62	12	63
31	32	48	23	44
32	33	36	46	39

State	Input 0	Input 1	Input 2	Input 3
33	34	5	2	1
34	35	18	51	40
35	36	33	39	46
36	37	15	8	3
37	38	56	21	58
38	39	46	36	33
39	40	51	18	35
40	41	45	59	60
41	42	57	49	19
42	43	30	54	16
43	44	23	48	32
44	45	41	60	59
45	46	39	33	36
46	47	11	26	6
47	48	32	44	23
48	49	19	42	57
49	50	10	14	4
50	51	40	35	18
51	52	24	22	61
52	53	55	13	27
53	54	16	43	30
54	55	53	27	13
55	56	38	58	21
56	57	42	19	49
57	58	21	56	38
58	59	60	41	45
59	60	59	45	41
60	61	22	24	52
61	62	31	63	12
62	63	12	62	31
63	64	7	25	17
64	2	1	34	5

FIG. 9

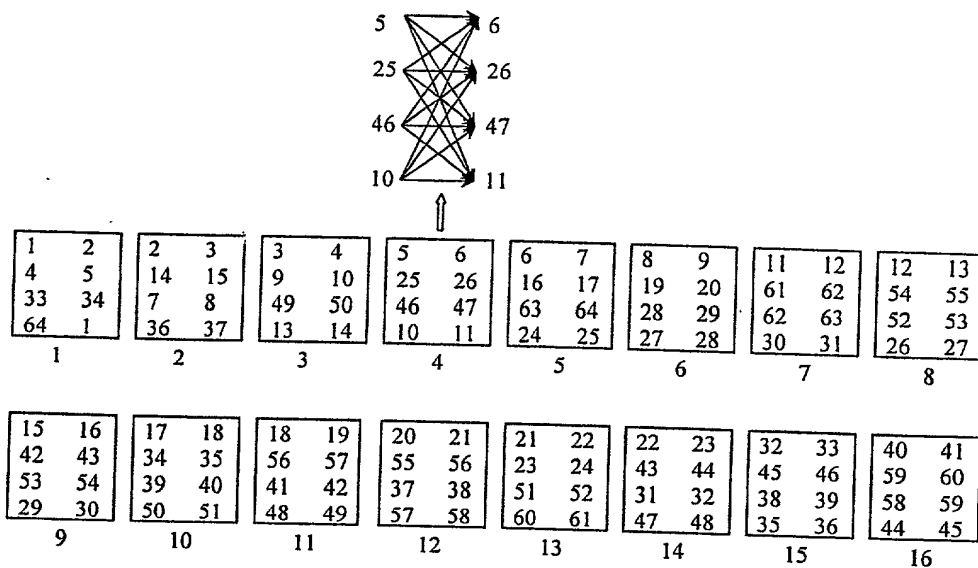


FIG. 10

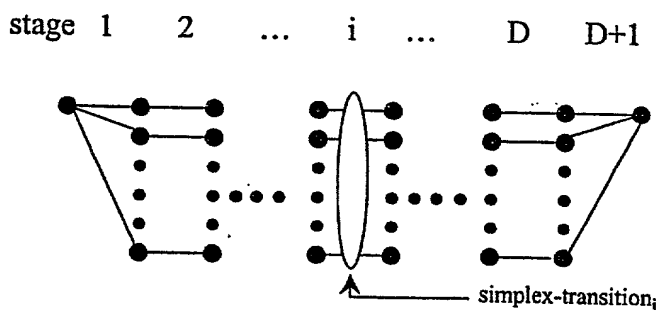


FIG. 11

TABLE 2

1	1	1	1	1
1	2	3	4	1
1	5	6	64	1
1	34	35	33	1
2	3	4	1	2
2	8	9	4	2
2	15	16	64	2
2	37	38	33	2
3	4	1	2	3
3	14	3	14	3
3	10	6	7	3
3	50	35	36	3
4	5	26	13	4
4	34	18	49	4
4	1	2	3	4
4	2	8	9	4
5	6	64	1	5
5	26	13	4	5
5	11	63	64	5
5	47	32	33	5
6	7	3	10	6
6	64	1	5	6
6	17	35	46	6
6	25	6	25	6
7	8	29	16	7
7	3	10	6	7
7	37	21	24	7
7	15	30	63	7
8	9	4	2	8
8	28	9	14	8
8	29	16	7	8
8	20	38	36	8
9	10	26	27	9
9	50	18	19	9
9	4	2	8	9
9	14	8	28	9
10	11	12	13	10
10	47	48	49	10
10	6	7	3	10
10	26	27	9	10
11	12	13	10	11

11	63	64	5	11
11	31	32	46	11
11	62	63	25	11
12	13	10	11	12
12	27	29	30	12
12	53	30	62	12
12	55	21	61	12
13	14	15	54	13
13	4	5	26	13
13	50	51	52	13
13	10	11	12	13
14	15	54	13	14
14	37	56	49	14
14	3	14	3	14
14	8	28	9	14
15	16	64	2	15
15	54	13	14	15
15	30	63	7	15
15	43	32	36	15
16	17	18	42	16
16	25	26	53	16
16	7	8	29	16
16	64	2	15	16
17	18	42	16	17
17	35	46	6	17
17	40	60	24	17
17	51	61	63	17
18	19	9	50	18
18	49	4	34	18
18	57	38	39	18
18	42	16	17	18
19	20	58	41	19
19	29	43	48	19
19	28	20	56	19
19	9	50	18	19
20	21	52	27	20
20	58	41	19	20
20	38	36	8	20
20	56	19	28	20
21	22	48	57	21
21	61	12	55	21

FIG. 12A

TABLE 2 (CONT.)

21	52	27	20	21
21	24	7	37	21
22	23	22	23	22
22	44	59	60	22
22	32	39	51	22
22	48	57	21	22
23	24	25	47	23
23	52	53	43	23
23	61	62	31	23
23	22	23	22	23
24	25	47	23	24
24	17	40	60	24
24	64	34	51	24
24	7	37	21	24
25	26	53	16	25
25	6	25	6	25
25	47	23	24	25
25	11	62	63	25
26	27	9	10	26
26	13	4	5	26
26	55	38	46	26
26	53	16	25	26
27	28	29	54	27
27	9	10	26	27
27	20	21	52	27
27	29	30	12	27
28	29	54	27	28
28	20	56	19	28
28	9	14	8	28
28	28	28	28	28
29	30	12	27	29
29	43	48	19	29
29	16	7	8	29
29	54	27	28	29
30	31	48	42	30
30	62	12	53	30
30	12	27	29	30
30	63	7	15	30
31	32	46	11	31
31	48	42	30	31
31	23	61	62	31
31	44	60	61	31
32	33	5	47	32
32	36	15	43	32
32	46	11	31	32
32	39	51	22	32
33	34	40	45	33
33	5	47	32	33
33	2	37	38	33

33	1	34	35	33
34	35	33	1	34
34	18	49	4	34
34	51	24	64	34
34	40	45	33	34
35	36	3	50	35
35	33	1	34	35
35	39	35	39	35
35	46	6	17	35
36	37	58	45	36
36	15	43	32	36
36	8	20	38	36
36	3	50	35	36
37	38	33	2	37
37	56	49	14	37
37	21	24	7	37
37	58	45	36	37
38	39	18	57	38
38	46	26	55	38
38	36	8	20	38
38	33	2	37	38
39	40	59	45	39
39	51	22	32	39
39	18	57	38	39
39	35	39	35	39
40	41	49	50	40
40	45	33	34	40
40	59	45	39	40
40	60	24	17	40
41	42	43	44	41
41	57	58	59	41
41	49	50	40	41
41	19	20	58	41
42	43	44	41	42
42	30	31	48	42
42	54	55	56	42
42	16	17	18	42
43	44	41	42	43
43	23	52	53	43
43	48	19	29	43
43	32	36	15	43
44	45	46	47	44
44	41	42	43	44
44	60	61	31	44
44	59	60	22	44
45	46	47	44	45
45	39	40	59	45
45	33	34	40	45
45	36	37	58	45

FIG. 12B

TABLE 2 (CONT.)

46	47	44	45	46
46	11	31	32	46
46	26	55	38	46
46	6	17	35	46
47	48	49	10	47
47	32	33	5	47
47	44	45	46	47
47	23	24	25	47
48	49	10	47	48
48	19	29	43	48
48	42	30	31	48
48	57	21	22	48
49	50	40	41	49
49	10	47	48	49
49	14	37	56	49
49	4	34	18	49
50	51	52	13	50
50	40	41	49	50
50	35	36	3	50
50	18	19	9	50
51	52	13	50	51
51	24	64	34	51
51	22	32	39	51
51	61	63	17	51
52	53	43	23	52
52	55	58	60	52
52	13	50	51	52
52	27	20	21	52
53	54	53	54	53
53	16	25	26	53
53	43	23	52	53
53	30	62	12	53
54	55	56	42	54
54	53	54	53	54
54	27	28	29	54
54	13	14	15	54
55	56	42	54	55
55	38	46	26	55
55	58	60	52	55
55	21	61	12	55
56	57	56	57	56
56	42	54	55	56
56	19	28	20	56
56	49	14	37	56
57	58	59	41	57
57	21	22	48	57
57	56	57	56	57
57	38	39	18	57
58	59	41	57	58

58	60	52	55	58
58	41	19	20	58
58	45	36	37	58
59	60	22	44	59
59	59	59	59	59
59	45	39	40	59
59	41	57	58	59
60	61	31	44	60
60	22	44	59	60
60	24	17	40	60
60	52	55	58	60
61	62	31	23	61
61	31	44	60	61
61	63	17	51	61
61	12	55	21	61
62	63	25	11	62
62	12	53	30	62
62	62	62	62	62
62	31	23	61	62
63	64	5	11	63
63	7	15	30	63
63	25	11	62	63
63	17	51	61	63
64	2	15	16	64
64	1	5	6	64
64	34	51	24	64
64	5	11	63	64

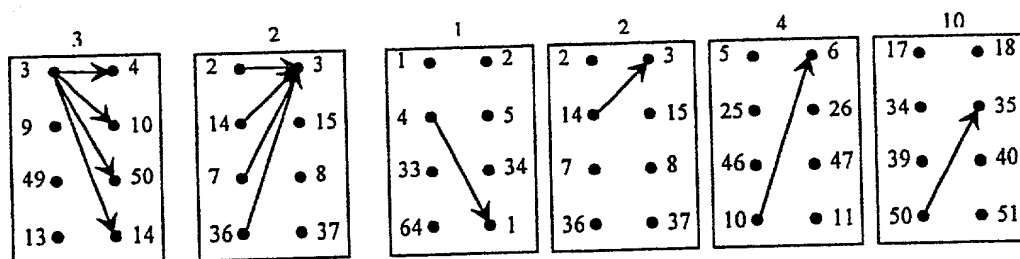


FIG. 13(a)

FIG. 13(L)

FIG. 13(c)

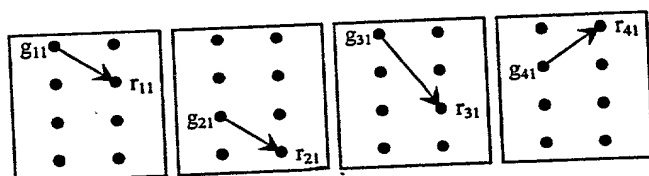


FIG. 14(a)

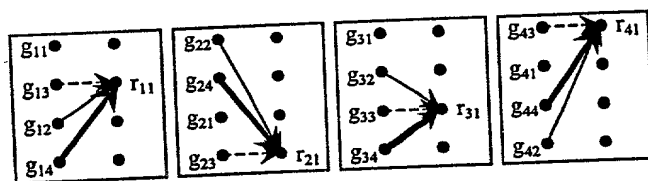


FIG. 14(b)

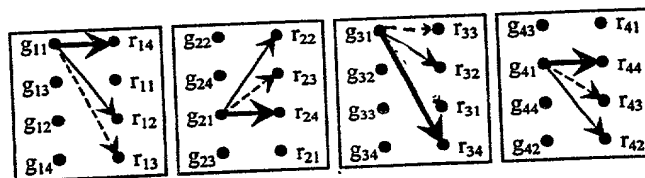


FIG. 14(c)

2		2		1	4		10		
7	3	7	3	64	1	25	6	17	35
2	15	2	15	1		5		34	
14	37	14	37	4		10		50	
36	8	36	8	33		46		39	

FIG. 15(a)

FIG. 15(b)

2		1	4		10		
7	3	64	1	25	6	17	35
2	15	1	5	5	11	34	51
14	37	4	34	10	47	50	40
36	8	33	2	46	26	39	18

FIG. 15(c)

1 2 3	1 2-3
-1-2-3	1-2 3
-1 2-3	-1 2 3
-1-2 3	-1-2-3

FIG. 18

1 3 5
-1 4 6
2-3-6
-2-4-5

1 3 5	1-3-5	-1 3-5	-1-3 5
-1 4 6	-1-4-6	1 4-6	1-4 6
2-3-6	2 3 6	-2-3 6	-2 3-6
-2-4-5	-2 4 5	2-4 5	2 4-5
(1)	(2)	(3)	(4)

FIG. 19(a)

FIG. 19(b)

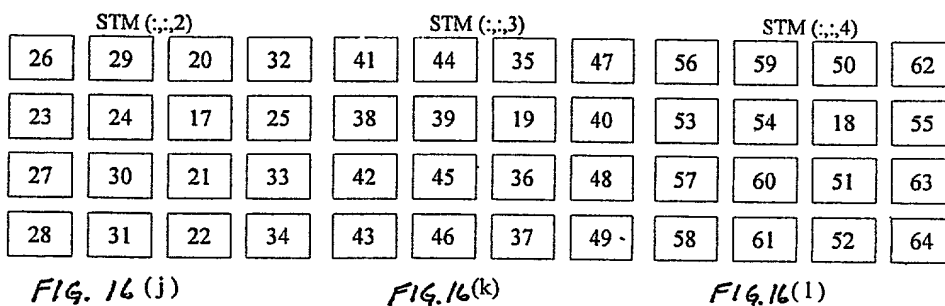
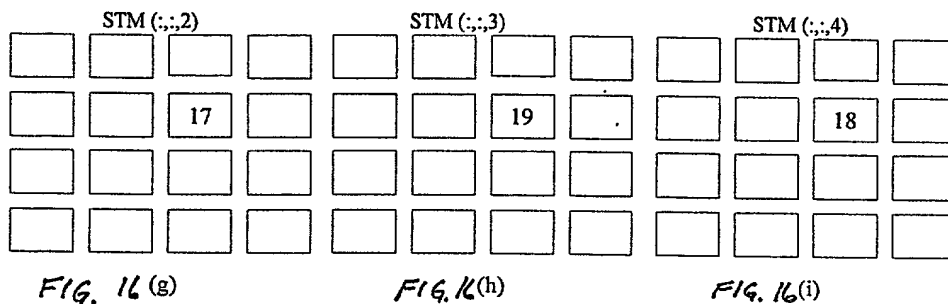
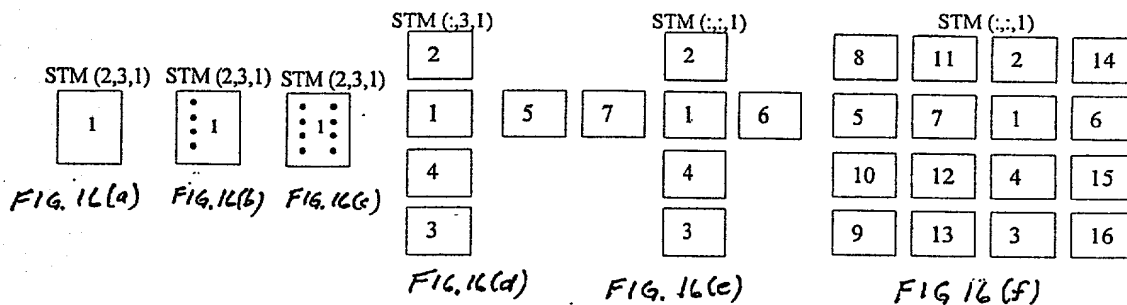


FIG. 17(a)

1	1
64	2
4	5
33	34

2	3
7	8
14	15
36	37

34	35
17	18
50	51
39	40

5	6
25	26
10	11
46	47

6	64
63	7
16	25
24	17

3	4
13	14
9	10
49	50

7	7
64	2
4	5
33	34

35	33
32	36
38	46
45	39

34	35
17	18
50	51
39	40

5	6
25	26
10	11
46	47

FIG. 17(b)

FIG. 17(c)

FIG. 17^(c)

26 13 12 27 54 53 52 55	8 9 27 28 28 29 19 20	2 3 7 8 14 15 36 37	18 49 48 19 56 42 41 57
6 64 63 7 16 25 24 17	3 4 13 14 9 10 49 50	1 1 64 2 4 5 33 34	35 33 32 36 38 46 45 39
47 32 31 48 43 23 22 44	37 38 55 56 20 21 57 58	34 35 17 18 50 51 39 40	40 45 44 41 58 60 59 59
11 63 62 12 30 62 61 31	15 16 53 54 29 30 42 43	5 6 25 26 10 11 46 47	51 24 23 52 21 61 60 22

FIG. 17(d)

FIG. 20 (a)

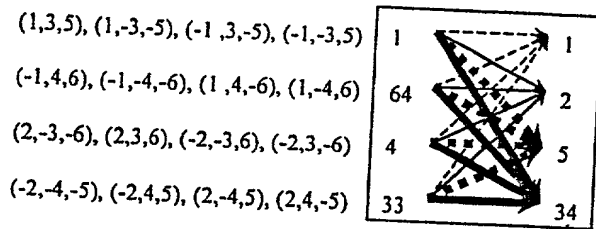


FIG. 20 (a)

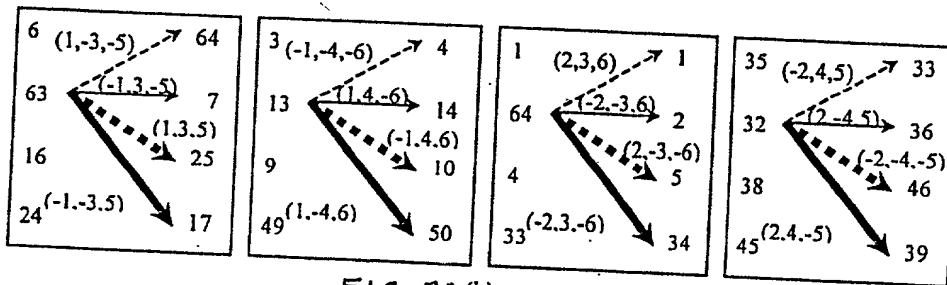
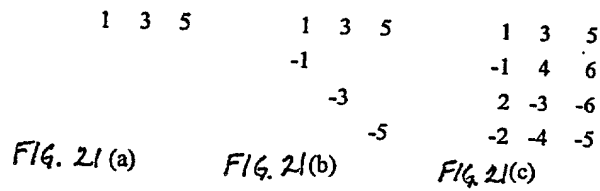


FIG. 20 (b)



$$IIS(:,1,1)$$

1	3	5
-1	4	6
2	-3	-6
-2	-4	-5

FIG. 22 (a)

$$IIS(:,1,1)$$

1	3	5
-1	4	6
2	-3	-6
-2	-4	-5
-1		
1		
-2		
2		
-3		
-4		
3		
4		
-5		
-6		
6		
5		

FIG. 22 (b)

$$IIS(:,1,1)$$

1	3	5
-1	4	6
2	-3	-6
-2	-4	-5
-1	9	11
1	10	12
-2	-9	-12
2	-10	-11
7	-3	-11
-7	-4	-12
8	3	12
-8	4	11
-7	-9	-5
7	-10	-6
-8	9	6
8	10	5

FIG. 22 (c)

$$IIS(:,1)$$

1	3	5	-1	-3	-5
-1	4	6	1	-4	-6
2	-3	-6	-2	3	6
-2	-4	-5	2	4	5
-1	9	11	1	-9	-11
1	10	12	-1	-10	-12
-2	-9	-12	2	9	12
2	-10	-11	-2	10	11
7	-3	-11	-7	3	11
-7	-4	-12	7	4	12
8	3	12	-8	-3	-12
-8	4	11	8	-4	-11
-7	-9	-5	7	9	5
7	-10	-6	-7	10	6
-8	9	6	8	-9	-6
8	10	5	-8	-10	-5

FIG. 22 (d)

$$IIS(:,1)$$

1	3	5	-1	17	21	13	-3	-21	-13	-17	-5
-1	4	6	1	18	22	-13	-4	-22	13	-18	-6
2	-3	-6	-2	-17	-22	14	3	22	-14	17	6
-2	-4	-5	2	-18	-21	-14	4	21	14	18	5
-1	9	11	1	19	23	-13	-9	-23	13	-19	-11
1	10	12	-1	20	24	13	-10	-24	-13	-20	-12
-2	-9	-12	2	-19	-24	-14	9	24	14	19	12
2	-10	-11	-2	-20	-23	14	10	23	-14	20	11
7	-3	-11	-7	-17	-23	15	3	23	-15	17	11
-7	-4	-12	7	-18	-24	-15	4	24	15	18	12
8	3	12	-8	17	24	16	-3	-24	-16	-17	-12
-8	4	11	8	18	23	-16	-4	-23	16	-18	-11
-7	-9	-5	7	-19	-21	-15	9	21	15	19	5
7	-10	-6	-7	-20	-22	15	10	22	-15	20	6
-8	9	6	8	19	22	-16	-9	-22	16	-19	-6
8	10	5	-8	20	21	16	-10	-21	-16	-20	-5

FIG. 22 (e)

$$IIS(:,2)$$

-1	1	-13	13
1	-1	13	-13
-2	2	-14	14
2	-2	14	-14
1	-1	13	-13
-1	1	-13	13
2	-2	14	-14
-2	2	-14	14
-7	7	-15	15
7	-7	15	-15
-8	8	-16	16
8	-8	16	-16
7	-7	15	-15
-7	7	-15	15
8	-8	16	-16
-8	8	-16	16

FIG. 22 (f)

$$IIS(:,3)$$

-3	-17	3	17
-4	-18	4	18
3	17	-3	-17
4	18	-4	-18
-9	-19	9	19
-10	-20	10	20
9	19	-9	-19
10	20	-10	-20
3	17	-3	-17
4	18	-4	-18
-3	-17	3	17
-4	-18	4	18
9	19	-9	-19
10	20	-10	-20
-9	-19	9	19
-10	-20	10	20

FIG. 22 (g)

$$IIS(:,4)$$

-5	-21	21	5
-6	-22	22	6
6	22	-22	-6
5	21	-21	-5
-11	-23	23	11
-12	-24	24	12
12	24	-24	-12
11	23	-23	-11
11	23	-23	-11
12	24	-24	-12
-12	-24	24	12
-11	-23	23	11
5	21	-21	-5
6	22	-22	-6
-6	-22	22	6
-5	-21	21	5

FIG. 22 (h)

IIS(:,2)

-1 33 41	1 37 45	-13 -33 -45	13 -37 -41
1 34 42	-1 38 46	13 -34 -46	-13 -38 -42
-2 -33 -42	2 -37 -46	-14 33 46	14 37 42
2 -34 -41	-2 -38 -45	14 34 45	-14 38 41
1 35 43	-1 39 47	13 -35 -47	-13 -39 -43
-1 36 44	1 40 48	-13 -36 -48	13 -40 -44
2 -35 -44	-2 -39 -48	14 35 48	-14 39 44
-2 -36 -43	2 -40 -47	-14 36 47	14 40 43
-7 -33 -43	7 -37 -47	-15 33 47	15 37 43
7 -34 -44	-7 -38 -48	15 34 48	-15 38 44
-8 33 44	8 37 48	-16 -33 -48	16 -37 -44
8 -34 43	-8 38 47	16 -34 -47	-16 -38 -43
7 -35 -41	-7 -39 -45	15 35 45	-15 39 41
-7 -36 -42	7 -40 -46	-15 36 46	15 40 42
8 35 42	-8 39 46	16 -35 -46	-16 -39 -42
-8 36 41	8 40 45	-16 -36 -45	16 -40 -41

FIG. 22 (i)

IIS(:,3)

25 -3 -41	-25 -17 -45	29 3 45	-29 17 41
-25 -4 -42	25 -18 -46	-29 4 46	29 18 42
26 3 42	-26 17 46	30 -3 -46	-30 -17 -42
-26 4 41	26 18 45	-30 -4 -45	30 -18 -41
-25 -9 -43	25 -19 -47	-29 9 47	29 19 43
25 -10 -44	-25 -20 -48	29 10 48	-29 20 44
-26 9 44	26 19 48	-30 -9 -48	30 -19 -44
26 10 43	-26 20 47	30 -10 -47	-30 -20 -43
27 3 43	-27 17 47	31 -3 -47	-31 -17 -43
-27 4 44	27 18 48	-31 -4 -48	31 -18 -44
-28 -3 -44	-28 -17 -48	32 3 48	-32 17 44
28 -4 -43	28 -18 -47	-32 4 47	32 18 43
-27 9 41	27 19 45	-31 -9 -45	31 -19 -41
27 10 42	-27 20 46	31 -10 -46	-31 -20 -42
-28 -9 -42	28 -19 -46	-32 9 46	32 19 42
28 -10 -41	-28 -20 -45	32 10 45	-32 20 41

FIG. 22 (j)

IIS(:,4)

-25 -33 -5	25 -37 -21	-29 33 21	29 37 5
25 -34 -6	-25 -38 -22	29 34 22	-29 38 6
-26 33 6	26 37 22	-30 -33 -22	30 -37 -6
26 34 5	-26 38 21	30 -34 -21	-30 -38 -5
25 -35 -11	-25 -39 -23	29 35 23	-29 39 11
-25 -36 -12	25 -40 -24	-29 36 24	29 40 12
26 35 12	-26 39 24	30 -35 -24	-30 -39 -12
-26 36 11	26 40 23	-30 -36 -23	30 -40 -11
-27 33 11	27 37 23	-31 -33 -23	31 -37 -11
27 34 12	-27 38 24	31 -34 -24	-31 -38 -12
-28 -33 -12	28 -37 -24	-32 33 24	32 37 12
28 -34 -11	-28 -38 -23	32 34 23	-32 38 11
27 35 5	-27 39 21	31 -35 -21	-31 -39 -5
-27 36 6	27 40 22	-31 -36 -22	31 -40 -6
28 -35 -6	-28 -39 -22	32 35 22	-32 39 6
-28 -36 -5	28 -40 -21	-32 36 21	32 40 5

FIG. 22 (k)

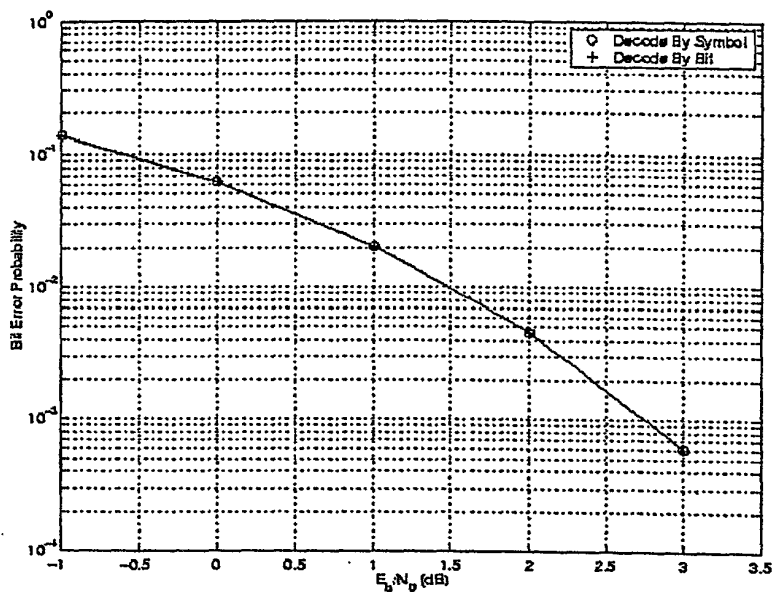


FIG. 23

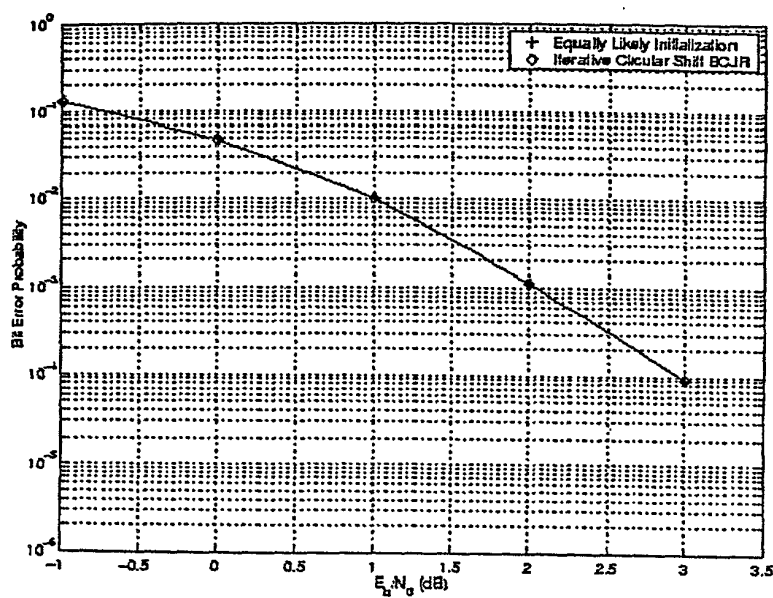


FIG. 26

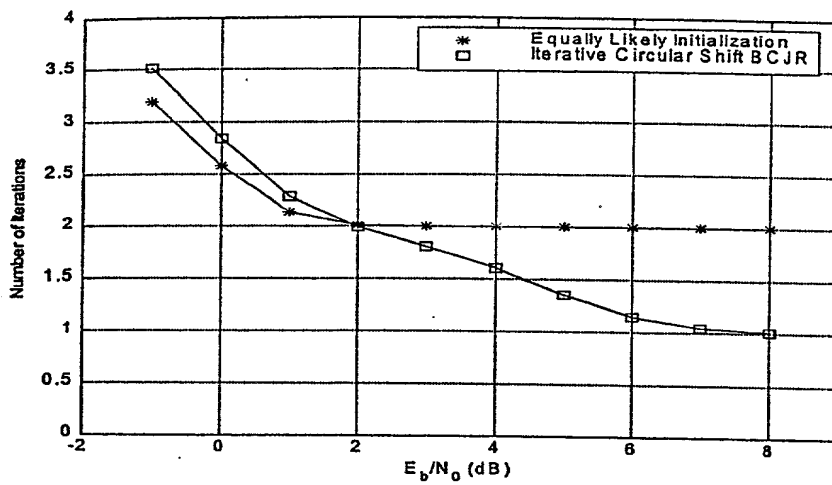


FIG. 24

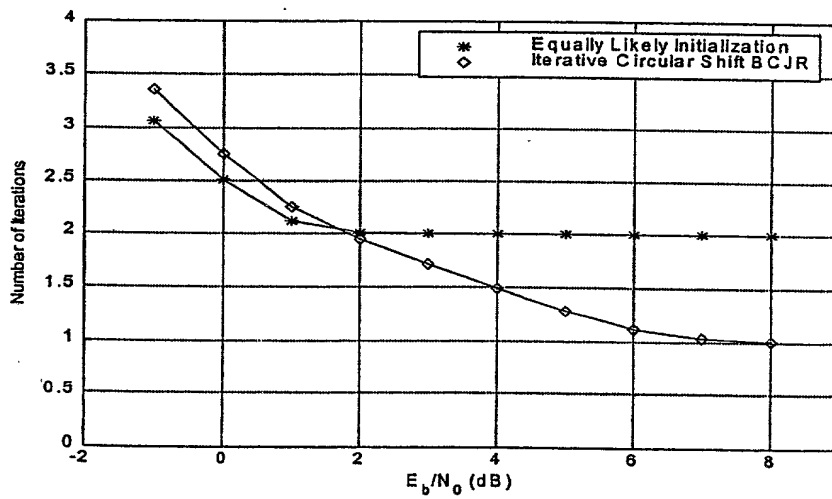


FIG. 25

FORM NO. 225850

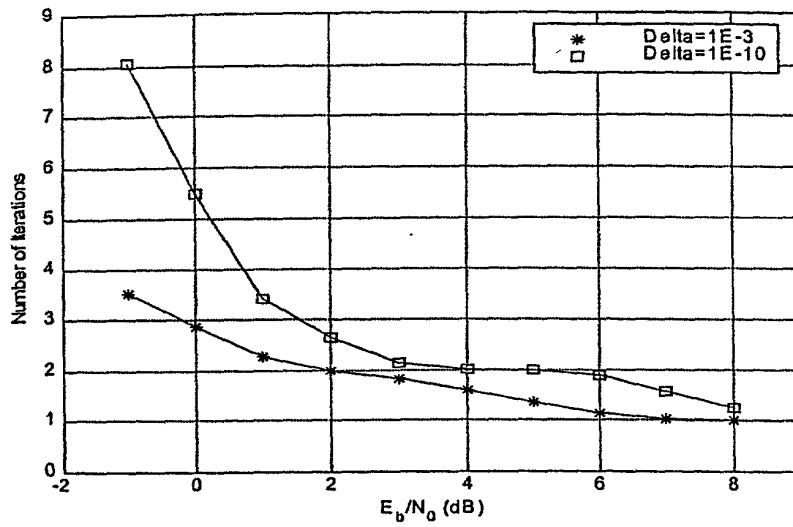


FIG. 27

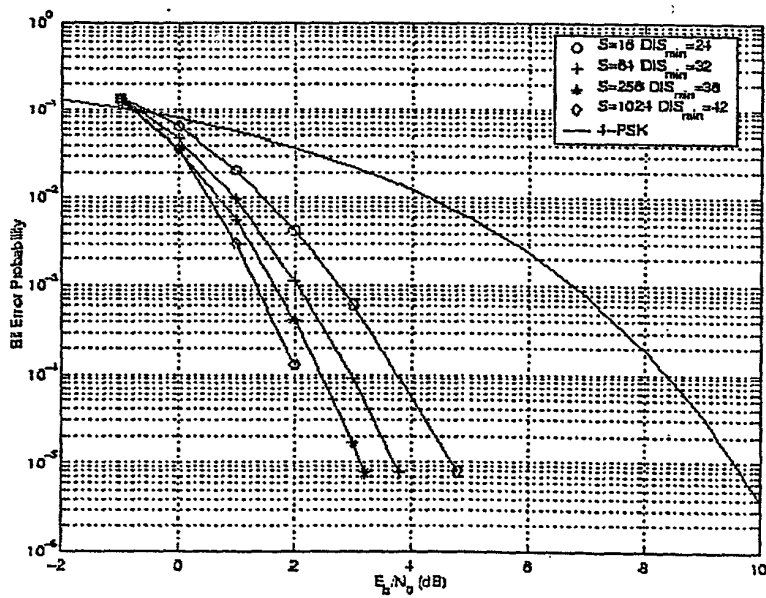


FIG. 32

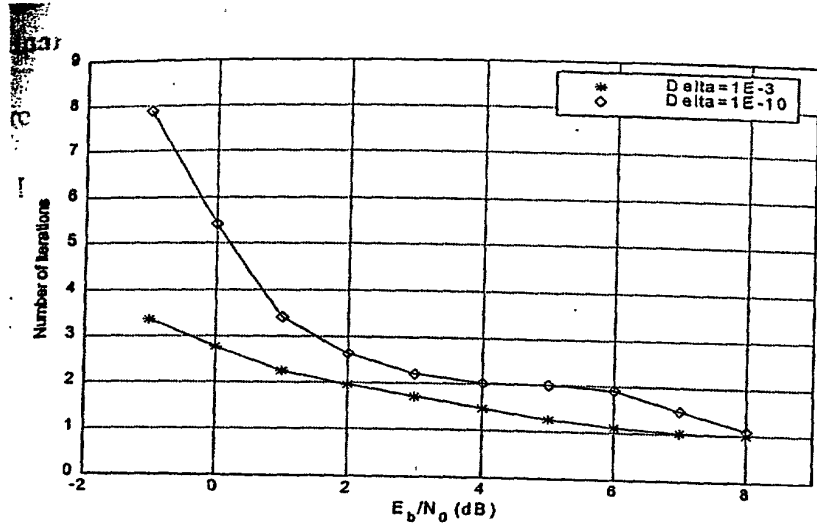


FIG. 28

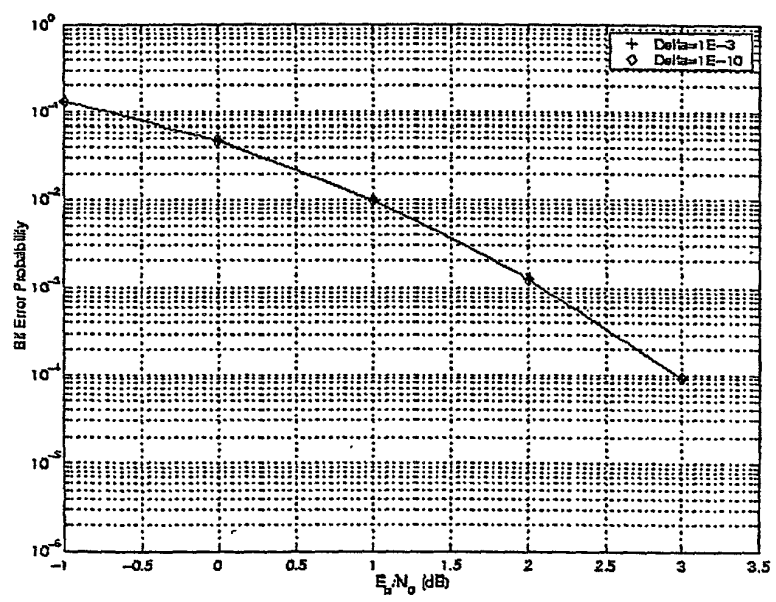


FIG. 29

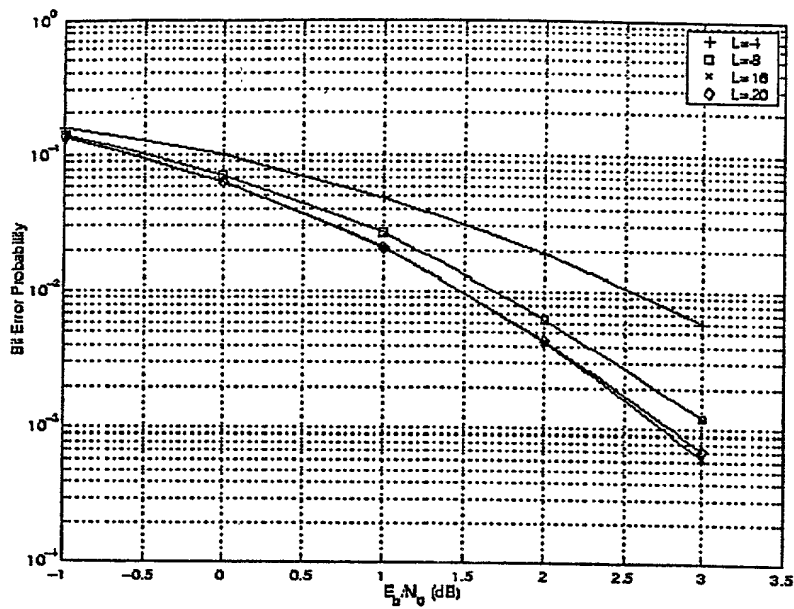


FIG. 30

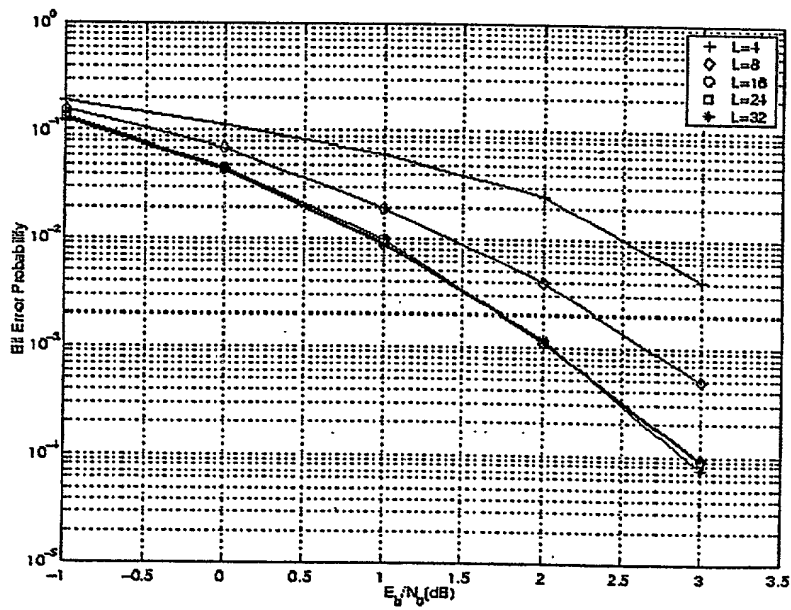
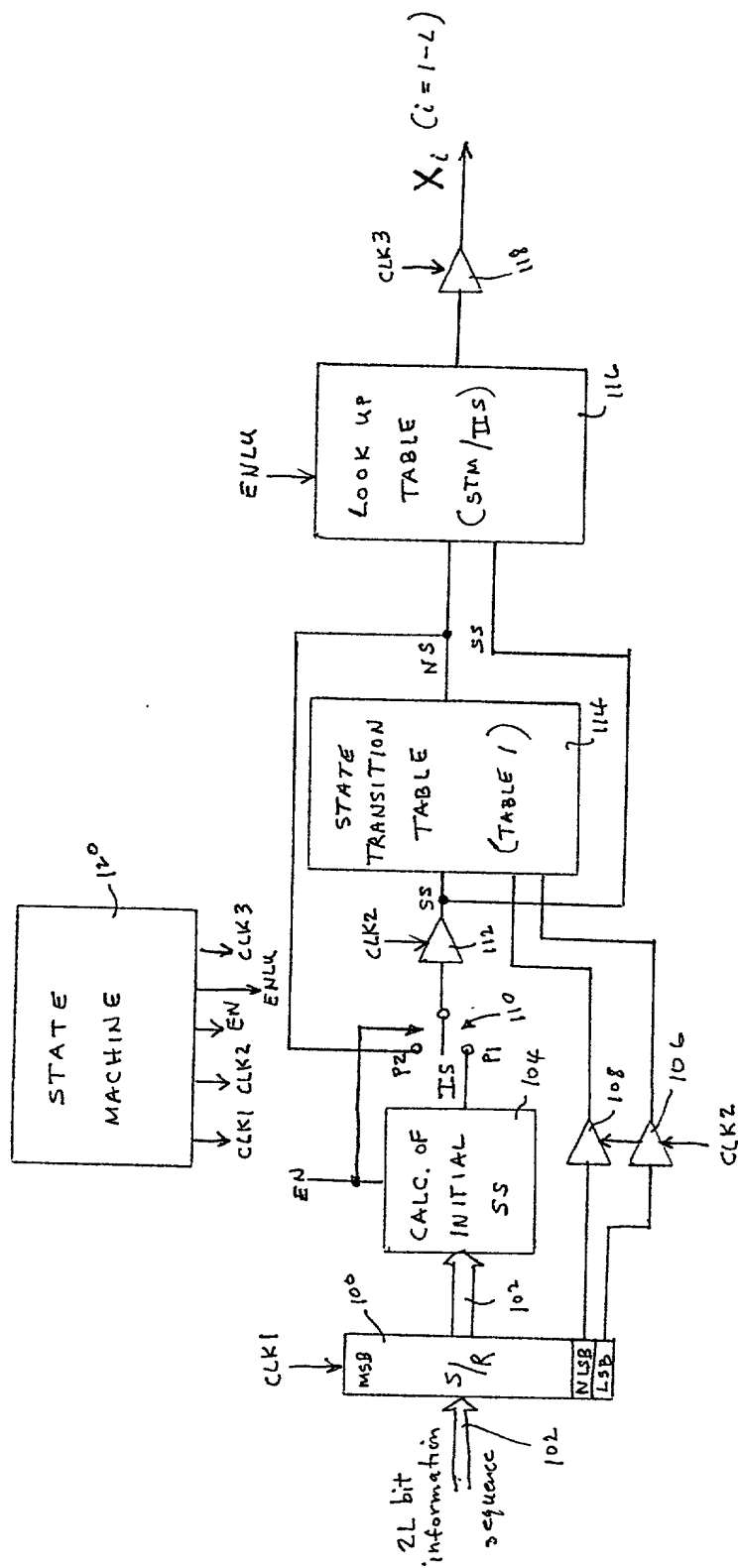


FIG. 31



F1 G. 33

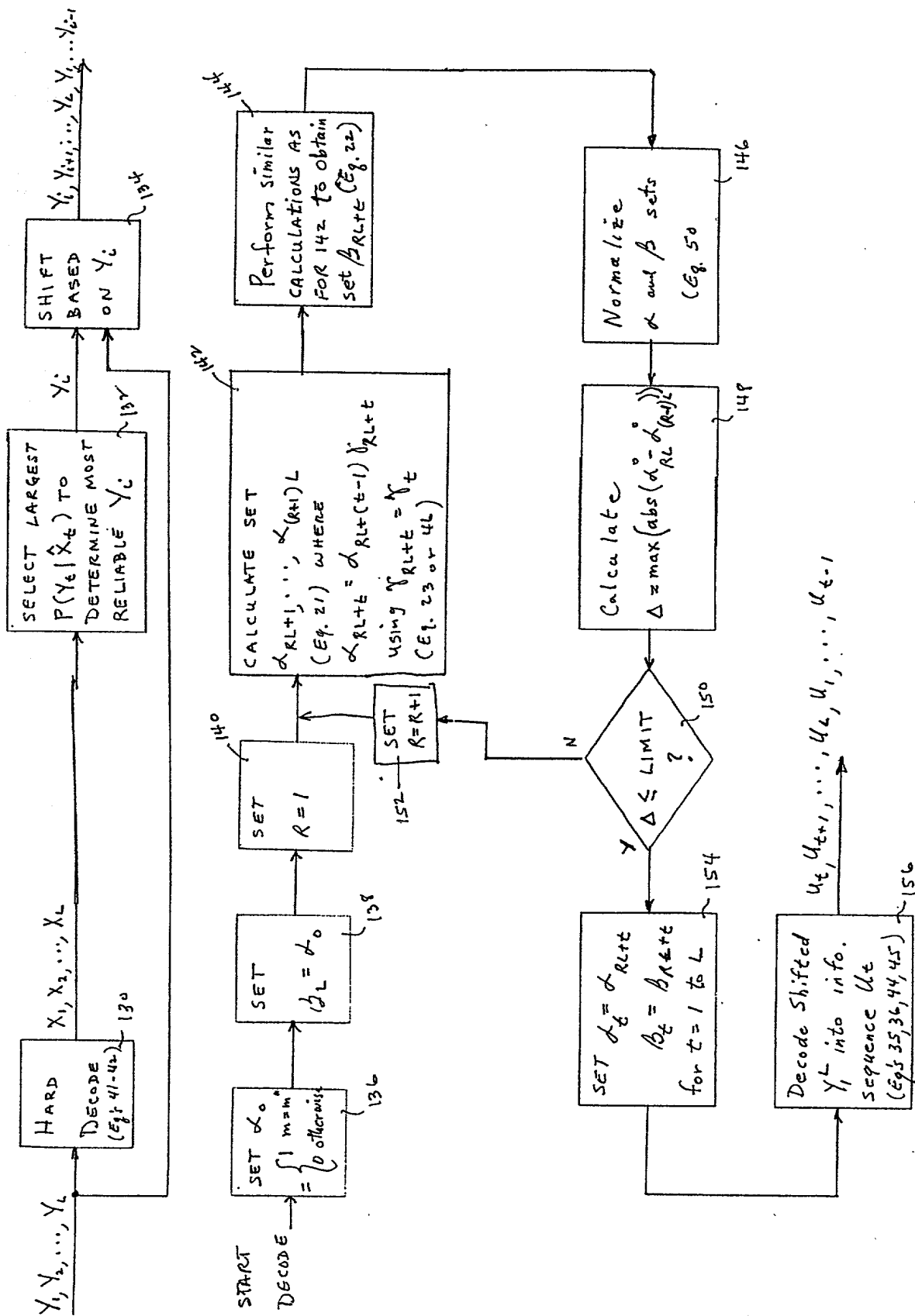


FIG. 34